

# SEQUENCE LISTING

<110> Malik, Fady  
Beraud, Christophe  
Freedman, Richard  
Craven, Andrew  
Sakowicz, Roman  
Hartman, James

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 Tyr Asn Ala Ser Ala Trp Leu Thr Lys Asn Met Asp Pro Leu Asn Asp  
           595            600            605  
 Asn Val Thr Ser Leu Leu Asn Ala Ser Ser Asp Lys Phe Val Ala Asp  
           610            615            620  
 Leu Trp Lys Asp Val Asp Arg Ile Val Gly Leu Asp Gln Met Ala Lys  
 625            630            635            640  
 Met Thr Glu Ser Ser Leu Pro Ser Ala Ser Lys Thr Lys Lys Gly Met  
           645            650            655  
 Phe Arg Thr Val Gly Gln Leu Tyr Lys Glu Gln Leu Gly Lys Leu Met  
           660            665            670  
 Thr Thr Leu Arg Asn Thr Thr Pro Asn Phe Val Arg Cys Ile Ile Pro  
           675            680            685  
 Asn His Glu Lys Arg Ser Gly Lys Leu Asp Ala Phe Leu Val Leu Glu  
           690            695            700  
 Gln Leu Arg Cys Asn Gly Val Leu Glu Gly Ile Arg Ile Cys Arg Gln  
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 Gly Phe Pro Asn Arg Ile Val Phe Gln Glu Phe Arg Gln Arg Tyr Glu  
           725            730            735  
 Ile Leu Ala Ala Asn Ala Ile Pro Lys Gly Phe Met Asp Gly Lys Gln  
           740            745            750  
 Ala Cys Ile Leu Met Ile Lys Ala Leu Glu Leu Asp Pro Asn Leu Tyr  
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 Arg Ile Gly Gln Ser Lys Ile Phe Phe Arg Thr Gly Val Leu Ala His  
           770            775            780  
 Leu Glu Glu Glu Arg Asp Leu Lys Ile Thr Asp Val Ile Met Ala Phe  
 785            790            795            800  
 Gln Ala Met Cys Arg Gly Tyr Leu Ala Arg Lys Ala Phe Ala Lys Arg  
           805            810            815  
 Gln Gln Gln Leu Thr Ala Met Lys Val Ile Gln Arg Asn Cys Ala Ala  
           820            825            830  
 Tyr Leu Lys Leu Arg Asn Trp Gln Trp Trp Arg Leu Phe Thr Lys Val  
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 ccaccaagt tctcaaggt ggaggacatg gcggagctga cgtgcctcaa cgaagcctcc 300  
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ttctgctggg tggtaaccc ctataaacac ctgcccatct actcggagaa gatcgtogac 420  
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 Lys Arg Leu Val Trp Val Pro Ser Glu Lys Gln Gly Phe Glu Ala Ala  
 35 40 45  
 Ser Ile Lys Glu Glu Lys Gly Asp Glu Val Val Val Glu Leu Val Glu  
 50 55 60  
 Asn Gly Lys Lys Val Thr Val Gly Lys Asp Asp Ile Gln Lys Met Asn  
 65 70 75 80  
 Pro Pro Lys Phe Ser Lys Val Glu Asp Met Ala Glu Leu Thr Cys Leu

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 Asn Glu Ala Ser Val Leu His Asn Leu Arg Glu Arg Tyr Phe Ser Gly  
 100            105            110  
 Leu Ile Tyr Thr Tyr Ser Gly Leu Phe Cys Val Val Val Asn Pro Tyr  
 115            120            125  
 Lys His Leu Pro Ile Tyr Ser Glu Lys Ile Val Asp Met Tyr Lys Gly  
 130            135            140  
 Lys Lys Arg His Glu Met Pro Pro His Ile Tyr Ala Ile Ala Asp Thr  
 145            150            155            160  
 Ala Tyr Arg Ser Met Leu Gln Asp Arg Glu Asp Gln Ser Ile Leu Cys  
 165            170            175  
 Thr Gly Glu Ser Gly Ala Gly Lys Thr Glu Asn Thr Lys Lys Val Ile  
 180            185            190  
 Gln Tyr Leu Ala Val Val Ala Ser Ser His Lys Gly Lys Lys Asp Thr  
 195            200            205  
 Ser Ile Thr Gln Gly Pro Ser Phe Ala Tyr Gly Glu Leu Glu Lys Gln  
 210            215            220  
 Leu Leu Gln Ala Asn Pro Ile Leu Glu Ala Phe Gly Asn Ala Lys Thr  
 225            230            235            240  
 Val Lys Asn Asp Asn Ser Ser Arg Phe Gly Lys Phe Ile Arg Ile Asn  
 245            250            255  
 Phe Asp Val Thr Gly Tyr Ile Val Gly Ala Asn Ile Glu Thr Tyr Leu  
 260            265            270  
 Leu Glu Lys Ser Arg Ala Ile Arg Gln Ala Arg Asp Glu Arg Thr Phe  
 275            280            285  
 His Ile Phe Tyr Tyr Met Ile Ala Gly Ala Lys Glu Lys Met Arg Ser  
 290            295            300  
 Asp Leu Leu Leu Glu Gly Phe Asn Asn Tyr Thr Phe Leu Ser Asn Gly  
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 Phe Val Pro Ile Pro Ala Ala Gln Asp Asp Glu Met Phe Gln Glu Thr  
 325            330            335  
 Val Glu Ala Met Ala Ile Met Gly Phe Ser Glu Glu Glu Gln Leu Ser  
 340            345            350  
 Ile Leu Lys Val Val Ser Ser Val Leu Gln Leu Gly Asn Ile Val Phe  
 355            360            365  
 Lys Lys Glu Arg Asn Thr Asp Gln Ala Ser Met Pro Asp Asn Thr Ala  
 370            375            380  
 Ala Gln Lys Val Cys His Leu Met Gly Ile Asn Val Thr Asp Phe Thr  
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 Arg Ser Ile Leu Thr Pro Arg Ile Lys Val Gly Arg Asp Val Val Gln  
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 Lys Ala Gln Thr Lys Glu Gln Ala Asp Phe Ala Val Glu Ala Leu Ala  
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 Lys Ala Leu Asp Lys Thr His Arg Gln Gly Ala Ser Phe Leu Gly Ile  
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 Leu Cys Ile Asn Tyr Thr Asn Glu Lys Leu Gln Gln Leu Phe Asn His  
 485            490            495  
 Thr Met Phe Ile Leu Glu Gln Glu Glu Tyr Gln Arg Glu Gly Ile Glu  
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 Trp Asn Phe Ile Asp Phe Gly Leu Asp Leu Gln Pro Cys Ile Glu Leu  
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 Cys Thr Glu Gln Gly Ser His Pro Lys Phe Gln Lys Pro Lys Gln Leu  
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 Lys Asp Lys Thr Glu Phe Ser Ile Ile His Tyr Ala Gly Lys Val Asp  
 580 585 590  
 Tyr Asn Ala Ser Ala Trp Leu Thr Lys Asn Met Asp Pro Leu Asn Asp  
 595 600 605  
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 610 615 620  
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 625 630 635 640  
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 675 680 685  
 Asn His Glu Lys Arg Ser Gly Lys Leu Asp Ala Phe Leu Val Leu Glu  
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 Arg Ile Gly Gln Ser Lys Ile Phe Phe Arg Thr Gly Val Leu Ala His  
 770 775 780  
 Leu Glu Glu Glu Arg Asp Leu Lys Ile Thr Asp Val Ile Met Ala Phe  
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 Gln Ala Met Cys Arg Gly Tyr Leu Ala Arg Lys Ala Phe Ala Lys Arg  
 805 810 815  
 Gln Gln Gln Leu Thr Ala Met Lys Val Ile Gln Arg Asn Cys Ala Ala  
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 gagctggtgg agaattggca gaaggtcacg gttgggaaag atgacatcca gaagatgaac 240  
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 Lys Arg Leu Val Trp Val Pro Ser Glu Lys Gln Gly Phe Glu Ala Ala  
 35 40 45  
 Ser Ile Lys Glu Glu Lys Gly Asp Glu Val Val Val Glu Leu Val Glu  
 50 55 60  
 Asn Gly Lys Lys Val Thr Val Gly Lys Asp Asp Ile Gln Lys Met Asn  
 65 70 75 80

Pro Pro Lys Phe Ser Lys Val Glu Asp Met Ala Glu Leu Thr Cys Leu  
 85 90 95  
 Asn Glu Ala Ser Val Leu His Asn Leu Arg Glu Arg Tyr Phe Ser Gly  
 100 105 110  
 Leu Ile Tyr Thr Tyr Ser Gly Leu Phe Cys Val Val Val Asn Pro Tyr  
 115 120 125  
 Lys His Leu Pro Ile Tyr Ser Glu Lys Ile Val Asp Met Tyr Lys Gly  
 130 135 140  
 Lys Lys Arg His Glu Met Pro Pro His Ile Tyr Ala Ile Ala Asp Thr  
 145 150 155 160  
 Ala Tyr Arg Ser Met Leu Gln Asp Arg Glu Asp Gln Ser Ile Leu Cys  
 165 170 175  
 Thr Gly Glu Ser Gly Ala Gly Lys Thr Glu Asn Thr Lys Lys Val Ile  
 180 185 190  
 Gln Tyr Leu Ala Val Val Ala Ser Ser His Lys Gly Lys Lys Asp Thr  
 195 200 205  
 Ser Ile Thr Gly Glu Leu Glu Lys Gln Leu Leu Gln Ala Asn Pro Ile  
 210 215 220  
 Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Lys Asn Asp Asn Ser Ser  
 225 230 235 240  
 Arg Phe Gly Lys Phe Ile Arg Ile Asn Phe Asp Val Thr Gly Tyr Ile  
 245 250 255  
 Val Gly Ala Asn Ile Glu Thr Tyr Leu Leu Glu Lys Ser Arg Ala Ile  
 260 265 270  
 Arg Gln Ala Arg Asp Glu Arg Thr Phe His Ile Phe Tyr Tyr Met Ile  
 275 280 285  
 Ala Gly Ala Lys Glu Lys Met Arg Ser Asp Leu Leu Leu Glu Gly Phe  
 290 295 300  
 Asn Asn Tyr Thr Phe Leu Ser Asn Gly Phe Val Pro Ile Pro Ala Ala  
 305 310 315 320  
 Gln Asp Asp Glu Met Phe Gln Glu Thr Val Glu Ala Met Ala Ile Met  
 325 330 335  
 Gly Phe Ser Glu Glu Glu Gln Leu Ser Ile Leu Lys Val Val Ser Ser  
 340 345 350  
 Val Leu Gln Leu Gly Asn Ile Val Phe Lys Lys Glu Arg Asn Thr Asp  
 355 360 365  
 Gln Ala Ser Met Pro Asp Asn Thr Ala Ala Gln Lys Val Cys His Leu  
 370 375 380  
 Met Gly Ile Asn Val Thr Asp Phe Thr Arg Ser Ile Leu Thr Pro Arg  
 385 390 395 400  
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 405 410 415  
 Ala Asp Phe Ala Val Glu Ala Leu Ala Lys Ala Thr Tyr Glu Arg Leu  
 420 425 430  
 Phe Arg Trp Ile Leu Thr Arg Val Asn Lys Ala Leu Asp Lys Thr His  
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 Arg Gln Gly Ala Ser Phe Leu Gly Ile Leu Asp Ile Ala Gly Phe Glu  
 450 455 460  
 Ile Phe Glu Val Asn Ser Phe Glu Gln Leu Cys Ile Asn Tyr Thr Asn  
 465 470 475 480  
 Glu Lys Leu Gln Gln Leu Phe Asn His Thr Met Phe Ile Leu Glu Gln  
 485 490 495  
 Glu Glu Tyr Gln Arg Glu Gly Ile Glu Trp Asn Phe Ile Asp Phe Gly  
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 Thr Asp Lys Ser Phe Val Glu Lys Leu Cys Thr Glu Gln Gly Ser His  
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 565            570            575  
 Ile Ile His Tyr Ala Gly Lys Val Asp Tyr Asn Ala Ser Ala Trp Leu  
 580            585            590  
 Thr Lys Asn Met Asp Pro Leu Asn Asp Asn Val Thr Ser Leu Leu Asn  
 595            600            605  
 Ala Ser Ser Asp Lys Phe Val Ala Asp Leu Trp Lys Asp Val Asp Arg  
 610            615            620  
 Ile Val Gly Leu Asp Gln Met Ala Lys Met Thr Glu Ser Ser Leu Pro  
 625            630            635            640  
 Ser Ala Ser Lys Thr Lys Lys Gly Met Phe Arg Thr Val Gly Gln Leu  
 645            650            655  
 Tyr Lys Glu Gln Leu Gly Lys Leu Met Thr Thr Leu Arg Asn Thr Thr  
 660            665            670  
 Pro Asn Phe Val Arg Cys Ile Ile Pro Asn His Glu Lys Arg Ser Gly  
 675            680            685  
 Lys Leu Asp Ala Phe Leu Val Leu Glu Gln Leu Arg Cys Asn Gly Val  
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 Leu Glu Gly Ile Arg Ile Cys Arg Gln Gly Phe Pro Asn Arg Ile Val  
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 Phe Gln Glu Phe Arg Gln Arg Tyr Glu Ile Leu Ala Ala Asn Ala Ile  
 725            730            735  
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 Phe Phe Arg Thr Gly Val Leu Ala His Leu Glu Glu Glu Arg Asp Leu  
 770            775            780  
 Lys Ile Thr Asp Val Ile Met Ala Phe Gln Ala Met Cys Arg Gly Tyr  
 785            790            795            800  
 Leu Ala Arg Lys Ala Phe Ala Lys Arg Gln Gln Gln Leu Thr Ala Met  
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 Lys Val Ile Gln Arg Asn Cys Ala Ala Tyr Leu Lys Leu Arg Asn Trp  
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21

Top Secret